C

Cultural Resources

APPENDIX C – CULTURAL RESOURCES

C.1   INTRODUCTION

This appendix provides supplemental information used in determining potential impacts to cultural resources located within the region of influence (ROI), which includes Kirtland Air Force Base (KAFB) and the U.S. Department of Energy (DOE) Buffer Zone. The information presented here is more detailed than that provided in the main body of the Site-Wide Environmental Impact Statement (SWEIS) and is intended to answer potential questions the reader may have concerning cultural resources. Sections include an overview of previous cultural resource work in the ROI, an explanation of the research methods used to identify cultural resources located in the ROI, a discussion of the cultural history of the ROI, and a description of the cultural resources present in the ROI.

C.2   OVERVIEW OF PREVIOUS CULTURAL RESOURCE STUDIES

Many cultural resource studies of varying scope have been completed for areas within KAFB and the DOE Buffer Zone. While most of these studies were contracted in compliance with Sections 106 and 110 of the *National Historic Preservation Act* (NHPA) as amended (16 United States Code [U.S.C.] Section [§] 470), other studies include regional syntheses and academic papers. Table C.2–1 presents the types and numbers of cultural resource studies conducted in the ROI.

The draft *Cultural Resource Management Plan for Kirtland Air Force Base New Mexico* addresses resources across the entire base (Trierweiler 1998). Previous to this

Table C.2–1. Numbers of Cultural Resource Studies Conducted

TYPE OF STUDY	NUMBER
Plans and Research Designs	2
Archaeological Inventories	139
Architectural Inventories	6
Archaeological Testing	4
Archaeological Excavations	1
Special Purpose Studies	9
TOTAL	**161**

Source: Trierweiler 1998

plan, two major compiled works were completed for the ROI. A comprehensive program review was completed in 1988 that evaluated the previous work conducted at KAFB and made suggestions for improvement of the compliance survey process (Lintz et al. 1988). In 1992, a research design was developed for KAFB that provided an integrated framework from which to assess a site's research potential and make determinations of National Register of Historic Places (NRHP) eligibility (Seymour 1992). Much of the material from these two earlier documents was incorporated into the current draft cultural resource management plan for the base (Trierweiler 1998). Due to the paucity of identified cultural resources under DOE jurisdiction in the ROI, the DOE has not prepared a cultural resource management plan.

Archaeological inventories comprise the majority of the cultural resource studies conducted within the ROI. These studies have been conducted by a variety of agency officials and private sector consultants. Of the 139 inventories conducted, over 80 percent have been conducted in the past 10 years. Since 1989, the inventories appear to have been conducted primarily for NHPA (16 U.S.C. §470) Section 106 compliance for specific undertakings, resulting in more numerous, but smaller surveys. Five hundred eighty-four architectural properties, including most 40 plus-year-old buildings and structures in areas under KAFB jurisdiction, have been assessed in only 6 architectural inventories (Trierweiler 1998).

Little excavation has occurred at sites located in the ROI. This is because archaeological testing has been made obsolete in many instances by the evaluation of NRHP eligibility during the inventory phase. Because much of the ROI has been inventoried for cultural resources, planners are able to design undertakings so that known archaeological sites are not affected, thus removing the need for data recovery to mitigate impacts. Five sites have been tested for eligibility, and one site, Two Dead Junipers (NM 0:3:1:11), has been fully excavated to mitigate ongoing erosional damage to the site. Numerous architectural features and four human burials were revealed during excavation of this site; however, the excavation has not been formally reported. Mitigation of impacts to eligible architectural resources has not been completed for any resources in the ROI. However, the DOE has completed Historic American Buildings Survey Level II quality documentation of three buildings in

the old section of Technical Area (TA)-II (901, 904, and 907) (Laskar 1997b) and state of New Mexico building inventory forms for other buildings in that TA. The DOE has determined that these buildings in TA-II comprise a district eligible to be listed on the NHRP and has received concurrence from the State Historic Preservation Officer (SHPO) that the completed documentation mitigates the effects of decontamination and demolition of these buildings. The DOE is seeking concurrence from the Advisory Council on Historic Preservation.

Some of the cultural resource studies that have been conducted do not address the identification or mitigation of archaeological or architectural sites. These special-purpose studies address adjunct issues to archaeology, such as Native American land use (Holmes 1996a), oral history (Holmes 1996b), palynological studies, geophysical studies (Frederick & Williamson 1997), and procedures for complying with the *Native American Graves Protection and Repatriation Act* (NAGPRA) (25 U.S.C. §3001) (Roxlau & White 1998). These works will facilitate future research and compliance with cultural resource laws and regulations.

C.3 RESEARCH METHODS: IDENTIFICATION OF CULTURAL RESOURCES

C.3.1 Prehistoric and Historic Archaeological Resources

Information on the prehistoric and historic archaeological resources in the ROI was obtained from a number of sources. Primary sources include the 377th Air Base Wing/Environmental Management Division at KAFB and the Integrated Risk Management Department of Sandia National Laboratories/New Mexico (SNL/NM). Other sources of information include the New Mexico Office of Cultural Affairs, Historic Preservation Division, Archaeological Records Management Section; the New Mexico State Register of Cultural Properties; and the University of New Mexico, Maxwell Museum of Anthropology. A review of published records and literature was also conducted. Because of the large number of studies that have been completed for cultural resources in the ROI, the literature was plentiful and complete. Finally, detailed information concerning cultural resources located within the ROI is maintained by the SNL/NM Facility Geographic

Information System Program office. This database was used for analysis of impacts to cultural resources.

C.3.2 Traditional Cultural Properties

Prior to preparation of the SWEIS, little ethnographic work had been conducted to determine the presence of traditional cultural properties (TCPs) in the ROI, and little published literature existed on the topic. Two studies have been conducted for KAFB regarding historical land use of the area (Holmes 1996a and 1996b). These studies identified Anglo, Hispanic, and Native American uses of the land through interviews with people who had familial connections to home-steaders in the KAFB area. This information, along with written records, provides a rather detailed overview of Hispanic and Anglo use of the area during historic times, which consisted of homesteading, farming, ranching, and mining; however, information on Native American use is overly general. Because of this, more information was sought to identify Native American TCPs.

The primary method for identifying Native American TCPs in the ROI, which might be affected by SNL/NM activities, was direct consultation with the Native American tribes. This consultation was conducted to identify the presence and locations of TCPs, to assess potential impacts from SNL/NM activities, and to provide recommendations for protecting TCPs from any adverse effects of future SNL/NM activities.

Fifteen Native American tribes were identified for consultation, based on information from the New Mexico SHPO and the University of New Mexico's Maxwell Museum of Anthropology (Sebastian 1997, Dorr 1997). The information provided by the SHPO is based on the Indian Land Claims Commission hearings in the 1970s and is derived from the testimony provided by the tribes, not on the decisions made by the commission (Sebastian 1997). The information provided by the Maxwell Museum is used by the museum to consult with tribes under NAGPRA (Dorr 1997). The following 15 tribes were initially contacted:

- Hopi Tribe
- Jicarilla Apache Tribe
- Navajo Nation
- Pueblo de Cochiti
- Pueblo of Acoma

- Pueblo of Isleta

- Pueblo of Jemez

- Pueblo of Laguna

- Pueblo of San Felipe

- Pueblo of Sandia

- Pueblo of Santa Ana

- Pueblo of Santo Domingo

- Pueblo of Ysleta del Sur

- Pueblo of Zia

- Pueblo of Zuni

Ethnographic literature was examined to understand the potential for and types of TCPs that could be located within the ROI for each of the tribes. The consultation process consisted of one to three stages, dependent on the response of the individual tribes.

- *Stage 1: Initial Consultation with Potentially Interested Tribes.* This stage involved identifying the appropriate contact, usually the director of the tribal environmental or cultural resources department, at each of the 15 tribes. A letter was sent to this contact, as well as to the governor/chairman/president of each tribe, describing the SWEIS and the effort underway to identify TCPs, asking if the tribe had concerns for TCPs in the ROI, and offering to provide a project briefing to the tribe at their convenience. This letter also enclosed copies of the SWEIS Public Involvement Plan (DOE 1997d), the Notice of Intent to prepare the SWEIS (62 Federal Register (FR) 104, pp. 29332-29335), and a summary of the comments received during the public scoping period. Telephone calls were then made to each of the tribal contacts. When requested, the tribes were provided with project briefings by the DOE Project Manager, Tetra Tech NUS (TtNUS) Project Manager, and TtNUS Cultural Resource Specialist to introduce the SWEIS and inquire whether or not the tribe wished to continue the consultation process to identify specific TCPs within the ROI.

- *Stage 2: Continued Consultation with Interested Tribes.* Consultation continued for those tribes who expressed a concern for specific TCPs potentially located within the ROI. Each interested tribe designed the methods used to continue the consultation with them. These methods included review of environmental and archaeological information pertaining to the ROI, field visits to the

ROI, and interviews with tribal representatives, leaders, elders, and resource specialists. Efforts were made to locate and identify TCPs in the ROI, document concerns of potential impacts to these resources due to SNL/NM activities, and document suggestions for measures to mitigate these potential impacts and protect the TCPs. At this stage, all tribes involved the TtNUS Cultural Resource Specialist in this research, although some tribes conducted interviews with tribal members themselves or prepared reports of their findings for submission to the specialist for the preparation of the SWEIS. All information received from the tribes was protected with strict confidentiality. Official procedures to protect the information were developed and followed throughout the consultation process and development of the SWEIS.

- *Stage 3: Review of Consultation Results.* Upon completion of consultation with each tribe, the tribe was given the opportunity to review the results of the consultation that would be used for preparation of the cultural resource sections of the SWEIS. This was a separate review process that was limited only to the reference materials pertaining to that particular tribe. Review comments were addressed and cultural resource sections of the SWEIS were edited to reflect relevant comments.

C.4 REGION OF INFLUENCE CULTURAL HISTORY

The cultural history of the ROI dates from 10,000 B.C. Archaeologists use different frameworks to classify cultural resources. For the northern Southwest, three major cultural frameworks are generally used: the Oshara Tradition (Irwin-Williams 1973), the Pecos Classification (Kidder 1927), and the Northern Rio Grande Sequence (Wendorf & Reed 1955). The Oshara Tradition, originally identified in an area northwest of Albuquerque, documents the development from Archaic Stage hunting and gathering lifestyles to the beginning of agriculture and sedentism, traits generally attributed to the Ancestral Puebloan way of life. The Northern Rio Grande Sequence emphasizes cultural development specific to the northern Rio Grande during the later Ancestral Pueblo period. The Pecos Classification, though developed for the Four Corners region of the Southwest, is included here because many researchers working in the Albuquerque area have used this framework. However, the Oshara Tradition and Northern Rio Grande Sequence are most applicable to the Albuquerque area and to the ROI in particular

(Trierweiler 1998). Figure C.4–1 illustrates the relationship among these three cultural frameworks.

The characteristics of the various cultural periods represented in the ROI have previously been described many times (Stuart & Gauthier 1984, Cordell 1984). Also, detailed syntheses of the cultural resources located in the ROI within these periods are available (Larson et al. 1998; Trierweiler 1998). Table C.4–1 summarizes the characteristics of the cultural periods and lists the number of NRHP-eligible sites in the ROI that contain artifacts from these periods. Note that some sites were used more than once throughout prehistory and history and have artifacts that date to different periods, resulting in sites that date to more than one period. Also, some sites contain artifacts that are not identifiable to a specific cultural period.

C.4.1 Paleoindian Stage (10,000 to 5500 B.C.)

Evidence of Paleoindian occupation along the Rio Grande begins around 10,000 B.C. Paleoindians practiced a mobile, hunter/gatherer way of life. They relied on hunting now-extinct megafauna such as mastodon, mammoth, horse, American camel, and several bison species, as well as rabbit, deer, and antelope, and on collecting wild plant foods (Trierweiler 1998). Paleoindian sites are largely known from scattered finds of projectile points indicative of the time period and are usually found in heavily eroded contexts. The association between the sites and badly eroded surfaces suggests that many Paleoindian sites remain buried within this region of the Southwest (Stuart & Gauthier 1984). Evidence for Paleoindian occupation in the vicinity of KAFB has been found on the East Mesa near the Manzano Mountain foothills, on Mesa del Sol to the west, and through Tijeras Canyon to the northeast (Larson et al. 1998). Three NRHP-eligible sites containing Paleoindian artifacts and two isolated projectile points have been identified in the ROI.

C.4.2 Archaic Stage (5500 B.C. to A.D. 400)

The beginning of the Archaic Stage coincides with a major climatic change and the extinction of the megafauna. The cooler, wetter climate shifted to drier, warmer conditions more common today. The lifestyle of the people changed during this stage. Big game hunting was slowly replaced by a reliance on a more diverse food supply, including a variety of animal species, and the increasing importance of plant collection. Toward the
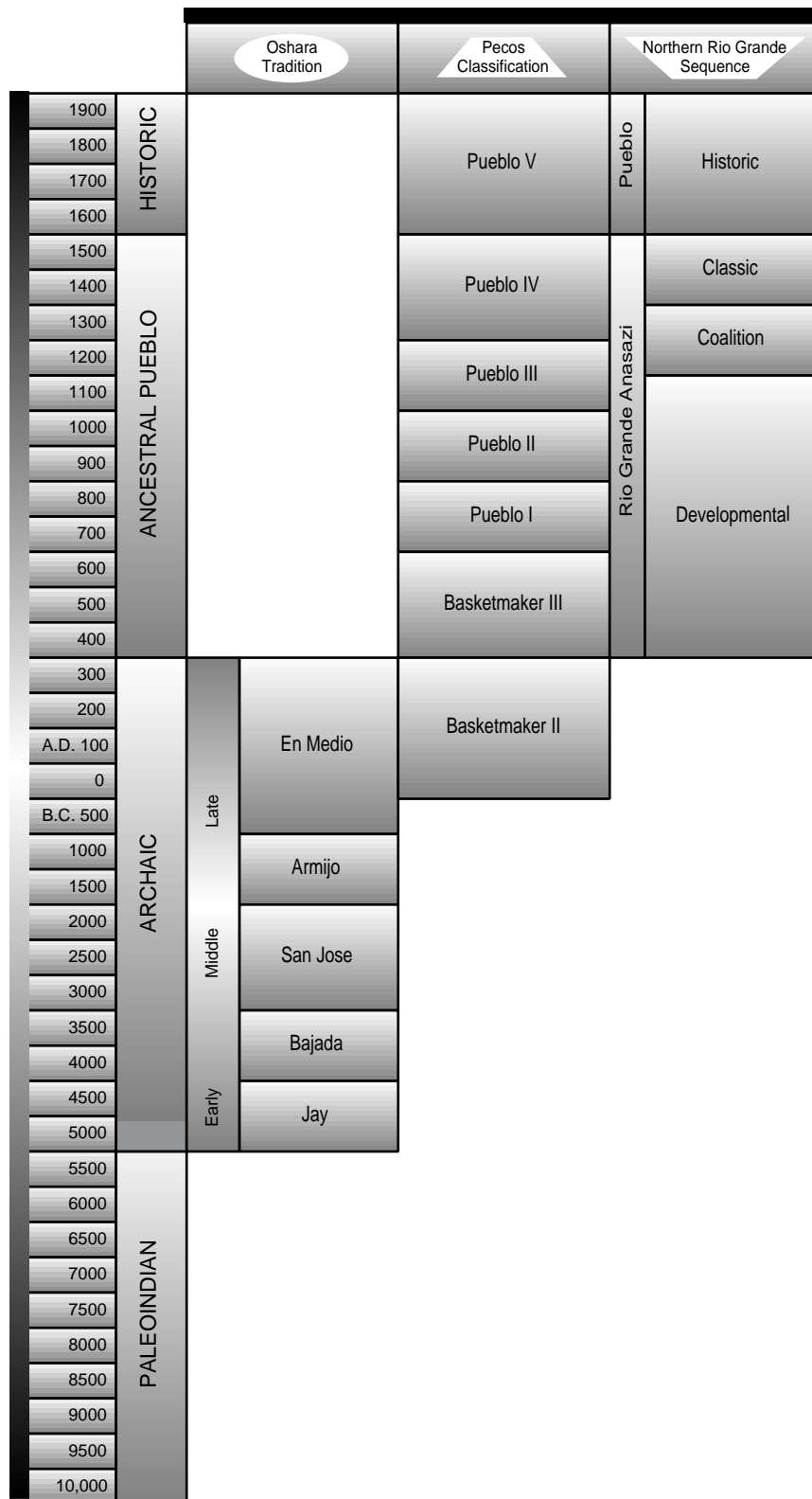
end of the stage, maize and squash plants were introduced into the diet and evidence exists for increasing importance of maize agriculture (USAF 1995c, Trierweiler 1998). The mobile lifestyle remained; however, evidence suggests the repeated use of certain sites. Sites dating to the Archaic Stage are situated in a greater diversity of environments, usually in areas where a great variety of plants and animals are available (USAF 1995c). This trend toward diversity is echoed in the artifacts found at Archaic Stage sites, such as smaller projectile points and the presence of plant grinding tools. The variety of tools indicates a wide range of activities involving hunting, gathering, food processing, butchering, preparing hides, woodworking, and manufacturing stone tools. Numerous Archaic Stage sites are located in the vicinity of the ROI, specifically along Tijeras Canyon, on Mesa del Sol, and in the area of the Albuquerque International Sunport. Thirty-one NRHP-eligible sites in the ROI contain Archaic Stage artifacts and cultural remains.

C.4.3 Ancestral Pueblo Stage (A.D. 400 to 1540)

Sometime around A.D. 400, the introduction of ceramics marks the beginning of the Ancestral Pueblo Stage. Throughout this stage, agriculture became increasingly important, allowing a more sedentary lifestyle to develop, which in turn led to other distinctive changes. The Ancestral Pueblo Stage is divided into three periods: Developmental, Coalition, and Classic. Eighteen NRHP-eligible sites in the ROI have artifacts and remains from this stage that cannot be assigned to a specific period.

C.4.3.1 Developmental Period (A.D. 400 to 1200)

The Developmental Period is one of gradual change from the Late Archaic Stage lifestyle to one defined by increased sedentism and agriculture. Larger scale agriculture permitted increased sedentism, suggested by the introduction of ceramics; the construction of more substantial semi-subterranean houses, called pithouses, that were inhabited for longer periods during the year; and an increase in the amount of trade goods (Larson et al. 1998). Early Developmental Period sites appear to have generally contained four to six pithouses, and sites are dispersed all along the Rio Grande Valley in the area of Albuquerque. Toward the end of the Late Developmental Period, surface adobe structures appear (though pithouses are still used) and site size increases. Developmental Period sites are numerous in the Tijeras Canyon area, though little evidence was found on Mesa

		Oshara Tradition		Pecos Classification	Northern Rio Grande Sequence	
1900	HISTORIC			Pueblo V	Pueblo	Historic
1800						
1700						
1600						
1500	ANCESTRAL PUEBLO			Pueblo IV	Rio Grande Anasazi	Classic
1400						
1300				Pueblo III		Coalition
1200						
1100				Pueblo II		Developmental
1000						
900				Pueblo I		
800						
700						
600				Basketmaker III		
500						
400						
300	ARCHAIC	Late	En Medio	Basketmaker II		
200						
A.D. 100						
0						
B.C. 500						
1000			Armijo			
1500						
2000		Middle	San Jose			
2500						
3000						
3500			Bajada			
4000						
4500		Early	Jay			
5000						
5500	PALEOINDIAN					
6000						
6500						
7000						
7500						
8000						
8500						
9000						
9500						
10,000						

Source: Trierweiler 1998

Figure C.4–1. Relationships Among Three Cultural Frameworks
Three frameworks (Oshara Tradition, Pecos Classification, and Northern Rio Grande Sequence) are used to classify cultural resources in the northern Southwest.

Table C.4–1. Cultural Framework, Characteristics, and Sites on KAFB and the DOE Buffer

TIME PERIOD	DATES	CHARACTERISTICS OF PERIOD	SITES WITH ARTIFACTS[a]
Paleoindian	10,000 to 5500 B.C.	Reliance on big game hunting and plant collection; mobile lifestyle, isolated sites; bones of megafauna such as mastodon, mammoth, and camel; lance-shaped projectile points for spears or darts	3
Archaic	5500 B.C. to A.D. 400	Reliance on smaller animals and increased plant collection; mobile lifestyle, scattered sites, returning to some sites; introduction of agriculture; smaller projectile points for hunting with darts; stone tools, flakes, chips, and hearths at sites	31
ANCESTRAL PUEBLO			
Developmental	A.D. 400 to 1200	Increased reliance on agriculture; more sedentism, multiple rooms (6 to 8) at sites; pithouses and above-ground adobe structures; ceramics are introduced; projectile points are smaller for bow and arrow	34
Coalition	A.D. 1200 to 1325	Increased agriculture, still hunting and gathering; increased sedentism, established communities with 13-30 rooms, population growing; pithouses still used, adobe dwellings increasing in number; ceramics refined, now use organic-based paints	59
Classic	A.D. 1325 to 1540	Increased agriculture, also hunting and gathering; ditch irrigation or seeps/springs to water fields; large, multi-storied pueblos, one- or two-room fieldhouses; introduction of glaze-paint decorated ceramics	24
HISTORIC			
Historic Pueblo	1540 to 1692	Introduction of the Spanish into the area, pueblo life continues; haciendas and other Hispanic architecture appear; historic ceramic styles appear; European artifacts, such as metal, appear; horses and equipment appear	6
Spanish Colonial	1692 to 1846	Spain and then Mexico have ownership; haciendas and rancheros abundant; continued European and some American artifacts; limited mining; lots of ranching and farming	86[b]
U.S. Territorial/ Statehood	1846 to 1942	U.S. gains ownership of Territory; railroad arrives and population booms; mining claims increase; homesteads are established; New Mexico becomes a state; Kirtland Army Airfield established	[b]
World War II	1942 to 1945	Airfield plays limited role in developing and delivering first atomic weapons; airfield used for aircraft maintenance school, convalescent hospital, and storage of old aircraft; "Z" division, forerunner of SNL/NM, established	6 buildings
Cold War	1945 to 1989	SNL/NM designated by Congress; SNL/NM conducts defense, energy, and nuclear research; expansion of facilities leads to acquisition of lands through permits, lease, and withdrawal	TA-II and 3 buildings

Sources: Larson et al. 1998, SNL/NM 1997a, Stuart & Gauthier 1984, Trierweiler 1998
NRHP: National Register of Historic Places
SNL/NM: Sandia National Laboratories/New Mexico
TA: technical area

[a] Only includes sites recommended as eligible or potentially eligible to the NRHP.
[b] Spanish Colonial and U.S. Territorial/Statehood are not treated separately in the available data.
Note: Forty-one sites contain prehistoric artifacts that are not identifiable as to time period.
Four sites contain artifacts not identifiable as prehistoric or historic.

de Sol to the west of KAFB (Trierweiler 1998). There are 34 NRHP-eligible sites in the ROI that contain artifacts and cultural remains dating to the Developmental Period.

C.4.3.2 Coalition Period (A.D. 1200 to 1325)

This period is defined by an increase in population, either moving in from outside areas or from internal population growth, which resulted in changes to lifestyle. The number and density of sites increased, with settlement shifting from dispersed habitations to aggregated communities (Larson et al. 1998). Although pithouses still occur, aboveground structures increase in number, and the number of structures per site increases dramatically to an average of 13 to 30 rooms per site. The large increase in population is a function of continuing and developing agricultural practices. Ceramic production during this period is further refined, and a shift is made at the beginning of the period from mineral-based paints to organic-based paints. Tijeras Canyon survey data indicate abundant Coalition Period occupation. There are 59 NRHP-eligible sites in the ROI with Coalition Period artifacts.

C.4.3.3 Classic Period (A.D. 1325 to 1540)

The beginning of the Classic Period is marked by both social and technological change (Trierweiler 1998). Data suggest a dramatic increase in population in the Albuquerque region, with the aggregation of the Rio Grande Valley population into large multi-storied adobe pueblos, some containing over 1,000 rooms (Stuart & Gauthier 1984). Most of these sites focus on river valley locations, with ditch irrigation of agricultural fields. Higher elevation communities seem to be concentrated around seeps and springs, suggesting diverse agricultural practices. A major technological change in ceramic production marks the beginning of this period, with the introduction of glaze paint-decorated pottery. The appearance of glazewares is considered to be evidence of an influx of people or ideas into the Rio Grande Valley from the western part of the state and the Little Colorado area. There are 24 NRHP-eligible sites with Classic Period cultural remains in the ROI.

C.4.4 Historic Stage (A.D. 1540 to present)

C.4.4.1 Historic Pueblo Period (1540 to 1692)

The arrival of Francisco Vasquez de Coronado to the Albuquerque area marks the beginning of the Historic Stage. His explorations were followed by other Spanish expeditions, and, by 1610, missions existed at many of the major pueblos along the middle and upper Rio Grande. Before the Pueblo Revolt in 1680, Hispanic settlers occupied the region between Kuaua and Isleta Pueblos and forced the people in the pueblos to furnish labor. After 1692, when New Mexico was once again under Spanish control, settlers could not legally force the labor of a declining pueblo population. The ROI contains six NRHP-eligible Historic Pueblo sites.

C.4.4.2 Spanish Colonial and U.S. Territorial Periods (1692 to 1942)

During the eighteenth and nineteenth centuries, few economic opportunities were available in the Albuquerque area before the arrival of the railroad. Farming and ranching were the principal activities. Mining never proved to be viable and trade was restricted when the area was under Spanish and Mexican rule. Once the railroad arrived in 1880, mining claims increased and homesteads were established. Coyote Springs was a focus of development in the twentieth century (Holmes 1996b). Native American land use in the project area appears to have been limited to hunting, gathering of plants, woodcutting, grazing, and possibly ritual activity (Holmes 1996a). Historic sites located in the ROI are the product of Pueblo, Hispanic, or Euro-American use or occupation of the area. There are 86 NRHP-eligible sites in the ROI dating to these periods.

During the 1920s, the area that is now KAFB began its history of aviation and military use. In 1928, the city of Albuquerque built its first airfield, Oxnard Field, which consisted of 140 acres near the present National Atomic Museum. In 1930, a new municipal airport was built to the west of Oxnard Field as a Works Progress Administration government program.

C.4.4.3 World War II Period (1942 to 1945)

In 1942, the Secretary of War appropriated 1,100 acres, including the old Oxnard Field, for the U.S. Army Air Corps. In 1943, portions of the current Withdrawn Area were withdrawn to the Department of the Navy for testing associated with the prosecution of World War II. At the end of World War II, Oxnard Field was used for the storage of decommissioned military aircraft. Los Alamos used Kirtland Field, located to the west of the Army airfield, to meet transportation needs associated with developing and delivering the first atomic weapons. In mid-July 1945, jurisdiction over the site that eventually became SNL/NM was transferred to the

Manhattan Engineering District (SNL/NM 1997a). In July of 1945, Los Alamos established the forerunner of SNL/NM, known as "Z" Division, to handle future weapons development, testing, and bomb assembly for the Manhattan Engineering District. The "Z" Division facilities occupied former Army air base facilities consisting of wooden sheds and buildings. The Manhattan Engineering District authorized construction of additional guard, storage, administrative, and laboratory facilities (SNL/NM 1997a). In the ROI, six buildings associated with World War II activities have been assessed as eligible for listing on the NRHP.

C.4.4.4 Cold War Period (1945 to 1989)

Development and expansion of SNL/NM facilities continued throughout the Cold War era and to the present. More acreage of the Cibola National Forest was withdrawn to the USAF and DOE, and the Navy withdrawn area was eventually turned over to the Department of the Army and then the USAF. As more land was needed for testing, construction of facilities, and safety or buffer zones, SNL/NM acquired areas throughout KAFB through the DOE. The DOE owned, leased, and was permitted lands by KAFB, the state of New Mexico, and the Pueblo of Isleta, and acquired withdrawn areas from the U.S. Forest Service. Cold War-era buildings located in TA-II have been determined eligible as a district for listing on the NRHP. In addition, the ROI contains three other Cold War-era buildings determined to be potentially eligible to the NRHP.

C.5 CULTURAL RESOURCES IN THE REGION OF INFLUENCE

C.5.1 Prehistoric and Historic Archaeological Resources

The ROI under consideration in assessing the potential for impacts to cultural resources as a result of SNL/NM activities contains 284 identified prehistoric and historic archaeological sites (TRC 1998). It must be remembered that not all areas of the ROI have been 100 percent inventoried for archaeological sites, and that buried archaeological sites would likely not be identified during inventory. Thus the potential for more sites within the ROI is great.

All of these sites have been evaluated for eligibility for listing on the NRHP (TRC 1998). Of these sites, 132 were designated as eligible, 60 as potentially eligible (eligibility cannot be determined based on current data

and further work is needed to make an evaluation; meanwhile, sites are determined to be potentially eligible until a formal evaluation is made), and 92 as not eligible for nomination to the NRHP. As stated in Volume I, Section 4.8, the assessment of impacts to cultural resources in the SWEIS addresses only those archaeological sites that have been determined eligible or potentially eligible, thus only 192 sites are included in the assessment of potential impacts. Table C.5–1 shows the distribution of the archaeological sites by landowner.

Various types of archaeological sites are represented in the ROI. Ninety-eight sites contain evidence only of historic use, of which 46 sites (47 percent) are determined to be eligible or potentially eligible. One hundred twenty-seven sites have evidence of prehistoric use only, 99 of which (78 percent) are eligible or potentially eligible. Fifty-four sites contain evidence of both historic and prehistoric use, of which 42 sites (78 percent) are eligible or potentially eligible. Five sites, which are of undetermined age, are also evaluated as eligible or potentially eligible (TRC 1998).

The archaeological sites present in the ROI are of varied morphological types. Morphology refers to the type of physical remains at a site. Predominant among the prehistoric sites are scatters of artifacts, sometimes with features. Some artifact scatters consist of only stone debitage from tool making and some tools themselves, while others have only ceramic sherds or have both stone and ceramic artifacts. Some sites just have the artifact scatter, while others have features associated with the scatter. These features are often thermal features (such as hearths or ash pits) or structural features (such as remnants of walls or other forms of structures). The historic sites also often consist of artifact scatters, except that the artifacts present are things such as fragments of metal, pieces of ceramic or porcelain dishes, household items such as kitchen utensils, and other items one might find associated with a habitation. These scatters are often associated with features such as historic fences, roads, mining features (for example, placer mining pits), or remnants of habitations.

Sites are often interpreted as to function (such as what it was used for or what was done at the site). Sites often have more than one function, either within the same time period of use or throughout different periods of use. An example is a site that was used prehistorically for processing stone materials and was later used historically for habitation and mining. This one site has three different functions. The different site functions identified for the sites in the ROI are presented in Table C.5–2.

Table C.5–1. Distribution of Prehistoric and Historic Archaeological Sites in the Region of Influence by Land Owner

LAND OWNER		NUMBER OF ARCHAEOLOGICAL SITES	
		ALL SITES	ELIGIBLE OR POTENTIALLY ELIGIBLE SITES
DOE		0	0
USAF		130	86
USFS	*withdrawn to DOE*	41	35
	withdrawn to USAF	110	68
Leased to DOE	*by the state of New Mexico*	3	3
	by the Pueblo of Isleta	0	0
TOTALS		**284**	**192**

Source: TRC 1998
DOE: U. S. Department of Energy

USAF: U. S. Air Force
USFS: U. S. Forest Service

Table C.5–2. Site Functions Represented in the Prehistoric and Historic Archaeological Sites in the Region of Influence

SITE FUNCTIONS	NUMBER OF SITES IN THE ROI WITH THESE FUNCTIONS	NUMBER OF ELIGIBLE OR POTENTIALLY ELIGIBLE SITES IN THE ROI WITH THESE FUNCTIONS
PREHISTORIC FUNCTIONS		
Habitation	53	52
Campsite	80	68
Agriculture	3	3
Limited activity area	36	15
Resource processing	7	3
HISTORIC FUNCTIONS		
Habitation	30	26
Campsite	9	3
Mining	57	26
Fence/road	6	0
Agriculture/ranching	15	12
Trash dump	5	2
Historic Pueblo use	7	5
Schoolhouse	1	1
Military	1	1
Unknown function	23	14

Source: TRC 1998
ROI: region of influence

C.5.2 Architectural Properties

Five hundred seventy-nine buildings and structures and one historic district within the ROI have been recorded, and these are at various stages in the evaluation for eligibility for listing on the NRHP. Most of the buildings and structures owned and used by SNL/NM are less than 50 years old, and thus have not been assessed for eligibility to the NRHP. As the architectural properties in the five TAs attain 50 years in age, the DOE will assess them for eligibility to the NRHP (Merlan 1991).

All of TA-II and 52 DOE properties in TA-I have been assessed. None of the 52 properties assessed in TA-I are considered to be eligible or potentially eligible for inclusion in the NRHP, a determination that has received concurrence from the SHPO (Sebastian 1993, Merlan 1993). TA-II has been determined eligible for the NRHP as a district, with many of the larger buildings in the TA contributing to that status (DOE 1998o).

C.5.3 Traditional Cultural Properties

The DOE initiated consultations with 15 Native American tribes to identify the presence of TCPs within the ROI, determine any potential impacts to these TCPs from SNL/NM activities, and develop mitigation measures to address potential impacts to these TCPs. These tribes were selected for consultation based on information provided by the SHPO (Sebastian 1997) and the Maxwell Museum of Anthropology at the University of New Mexico (Dorr 1997). One tribe, Ysleta del Sur, did not participate in the consultations. The results of the consultations are detailed below.

- *Hopi Tribe*—In response to the request for consultation, the Hopi Tribe's Cultural Preservation Office conducted an initial TCP study to determine concerns for TCPs potentially located at KAFB. The Hopi Tribe considers this study to be an initial step in a continuing consultation effort, not a complete assessment of all TCPs possibly located in the ROI; the study should form the basis for future consultations with the tribe regarding issues of cultural resources.

  The Hopi Tribe asserts cultural affiliation to the cultural sites on KAFB, and is concerned for the well-being and protection of those sites. The tribe wishes to be notified when activities have the potential to disturb cultural sites in the ROI and to be consulted under NAGPRA if and when the need arises. No TCPs were identified on KAFB during this initial study; if any are identified in the future, the

Hopi Tribe wishes to have access to them for traditional and/or religious purposes.

- *Jicarilla Apache Tribe*—The Jicarilla Apache Tribe indicated a concern for natural and cultural resources in the ROI. No TCPs were identified.

- *Navajo Nation*—Per the instructions of the Navajo Historic Preservation Department, two chapters of the Navajo Nation, Cañoncito Chapter and Alamo Chapter, were consulted regarding the presence of TCPs in the ROI. Both chapters claimed to have no concerns for TCPs in the ROI. The Historic Preservation Department reported that the Navajo used the ROI in historic times for subsistence activities.

- *Pueblo of Acoma*—The Pueblo of Acoma claims cultural affiliation with the archaeological sites located in the ROI and claims traditional use of the area prior to its becoming restricted access. It may have TCPs in the ROI, but will not continue consultation at this time to identify specific TCPs. The Pueblo has concerns for the treatment of human remains discovered in the area and wishes to be consulted on NAGPRA issues.

- *Pueblo of Cochiti*—Although concerned with the protection of cultural resources in the ROI, this pueblo decided to discontinue consultation at this time.

- *Pueblo of Isleta*—Consultation is ongoing with the Pueblo of Isleta. The pueblo considers itself to be culturally affiliated to the archaeological sites located in the ROI and claims traditional use of the area before restricted access became effective. The pueblo might have TCPs in the ROI, but has not yet identified specific TCPs.

- *Pueblo of Jemez*—This pueblo has no concerns for TCPs in the ROI.

- *Pueblo of Laguna*—The Pueblo of Laguna reports that its aboriginal land claim includes KAFB and that the pueblo used this land for hunting and gathering of resources.

- *Pueblo of Sandia*—Consultation with the Pueblo of Sandia indicated a concern for the protection of cultural resources on KAFB. No TCPs were identified.

- *Pueblo of San Felipe*—This pueblo has no concerns for TCPs in the ROI.

- *Pueblo of Santa Ana*—The Pueblo of Santa Ana reports that the tribe does not have any TCPs in the ROI. They expressed concern for the treatment of human remains discovered in the ROI and requested to be consulted on NAGPRA issues.

- *Pueblo of Santo Domingo*—Although concerned with the protection of cultural resources in the ROI, this pueblo decided to discontinue consultation at this time.

- *Pueblo of Zia*—The Pueblo of Zia claims cultural affiliation with archaeological sites in the ROI; however, the pueblo does not have concerns for TCPs in the ROI.

- *Pueblo of Zuni*—In response to the request for consultation, the Pueblo of Zuni's Heritage and Historic Preservation Office conducted a TCP study for the purposes of the SWEIS. The pueblo considers this report to be an initial step in a continuing consultation effort and not a complete assessment of all TCPs possibly located in the ROI.

Although no specific TCPs were identified, the Pueblo of Zuni considers itself to be culturally affiliated with the prehistoric archaeological remains in the ROI and considers these remains to be of traditional cultural importance due to the spiritual and esoteric relationships between the remains and living Zuni people and culture. The Pueblo of Zuni recommends that all prehistoric archaeological sites be avoided to the extent possible. The pueblo has concerns for the treatment of human remains discovered in the area and wishes to be consulted for all NAGPRA issues. In the event of inadvertent discoveries in the ROI, the Pueblo of Zuni requests to be consulted regarding the treatment of archaeological remains, human remains, associated and unassociated funerary objects, sacred objects, and objects of cultural patrimony.

This page was intentionally left blank.